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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/079,731	02/21/2002	Jorg-Reinhardt Kropp	M&N-IT280	7608
24131	7590	05/17/2005	EXAMINER	
LERNER AND GREENBERG, PA			BELLO, AGUSTIN	
P O BOX 2480			ART UNIT	
HOLLYWOOD, FL 33022-2480			PAPER NUMBER	
			2633	

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/079,731

Applicant(s)

KROPP ET AL.

Examiner

Agustin Bello

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/30/02 2/21/02</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the optoelectronic converters of claim 20 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-10 and 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Hendrix (U.S. Patent No. 6,008,920).

Regarding claims 1 and 22 Hendrix teaches an optical device, comprising: only one wavelength- selective filter (reference numeral 230 in Figure 8) for performing an operation selected from the group consisting of combining a plurality of wavelengths having optical signals in a wavelength-selective manner and separating a plurality of wavelengths having optical signals in a wavelength-selective manner; said optical signals being routed to repeatedly strike said wavelength-selective filter at respectively different angles such that at each one of said angles, only said optical signals of a specific one of said plurality of said wavelengths are acted upon in a manner selected from the group consisting of being coupled and being coupled out (as seen in Figure 8).

Regarding claims 2 and 23, Hendrix teaches at least one reflecting surface (reference numeral 226, 260, 270 in Figure 8); light including said plurality said wavelengths being reflected to and fro between said wavelength-selective filter and said at least one reflecting surface such that after each reflection from said at least one reflecting surface, said light strikes said wavelength-selective filter at a different one of said angles (as indicated in Figure 8).

Regarding claim 3, Hendrix teaches a plurality of reflecting surfaces (reference numeral 226, 260, 270 in Figure 8) that are configured at an angle with respect to said wavelength-selective filter; said plurality of said reflecting surfaces including said at least one reflecting surface.

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Regarding claim 4, Hendrix teaches that each one of said plurality of said reflecting surfaces are inclined at a different angle with respect to said wavelength-selective filter (as indicated in Figure 8).

Regarding claims 5 and 6, Hendrix teaches that each one of said plurality of said reflecting surfaces are at a different distance away from said wavelength-selective filter (according to Figure 8 wherein the reflective surfaces are either closer or farther away from the filter).

Regarding claim 7, Hendrix teaches an optical imaging system (e.g. prism of (column 15 lines 46-57) forming said light into substantially parallel bundle of light including said plurality said wavelengths (inherent function of prism); each one of said plurality of said wavelengths of said substantially parallel bundle streaming through said wavelength-selective filter at an angle that is different from other ones of said plurality of said wavelengths of said substantially parallel bundle (as seen in Figure 8).

Regarding claim 8, Hendrix teaches a plurality of detectors (reference numeral 245-248 in Figure 8); and a plurality of further optical imaging systems (reference numeral 222, 230 in Figure 8) for imaging each one of said plurality of said wavelengths of said substantially parallel bundle onto a respective one of said plurality of said detectors.

Regarding claim 9, Hendrix teaches a multichannel interface element (reference numeral 222, 230 in Figure 8); said plurality of said further optical imaging systems being integrated into said multichannel interface element (e.g. elements 222, 230 are integrated).

Regarding claim 10, Hendrix teaches a multiplexing element (Figure 8) having a surface on which said wavelength-selective filter is configured (reference numeral 222 in Figure 8); said

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multiplexing element having at least one further surface (reference numeral 226, 260, 270 in Figure 8) forming a plurality of reflecting surfaces that are configured obliquely.

Regarding claim 21, Hendrix teaches a separate carrier element (reference numeral 222 in Figure 8); said wavelength-selective filter (reference numeral 230 in Figure 8) being formed on said separate carrier element.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hendrix in view of Suzuki JP409090155A (prior art submitted by applicant).

Regarding claim 11, Hendrix differs from the claimed invention in that Hendrix fails to specifically teach an optical waveguide being repeatedly led up to said wavelength-selective filter at different angles; said optical waveguide routing light including said plurality of said wavelengths. However, Suzuki, in the same field of optics, teaches an optical waveguide being repeatedly led up to said wavelength-selective filter at different angles; said optical waveguide routing light including said plurality of said wavelengths (Figure 3). One skilled in the art would have been motivated to employ the optical waveguide technique of Suzuki in the device of Hendrix in order to directly guide the lightwaves to and from the filter. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to employ an optical

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waveguide which leads up to said wavelength-selective filter at different angles; said optical waveguide routing light including said plurality of said wavelengths.

Regarding claim 12, the combination of Hendrix and Suzuki teaches at least one reflecting surface (reference numeral 226, 260, 270 in Figure 8 of Hendrix), said optical waveguide being routed to and fro between said wavelength-selective filter and said at least one reflecting surface (via the combination of references).

Regarding claim 13, the combination of Hendrix and Suzuki teaches a substrate (column 15 lines 68-67 of Hendrix); said optical waveguide being formed in an optically integrated manner in said substrate (Figure 3 of Suzuki).

Regarding claim 14, the combination of Hendrix and Suzuki teaches that said substrate is an integrated chip (as seen in both Hendrix Figure 8 and Suzuki Figure 3).

Regarding claim 15, the combination of Hendrix and Suzuki teaches that said substrate has a metalized surface (reference numeral 226, 260, 270 in Figure 8 of Hendrix) forming at least one reflecting surface; and said optical waveguide is routed to and fro between said filter and said at least one reflecting wavelength-selective surface (via the combination of references).

Regarding claim 16, the combination of Hendrix and Suzuki teaches that 16. said optical waveguide runs in a curved manner in said substrate (as seen in Figure 3 of Suzuki) such that said optical waveguide is repeatedly led up to said wavelength-selective filter at said different angles.

Regarding claim 17, the combination of Hendrix and Suzuki teaches that at least one layer running at an angle (reference numeral 226, 260 in Figure 8 of Hendrix) with respect to said wavelength-selective filter, said optical waveguide running to and fro in a zigzag manner in

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said substrate such that said optical waveguide is repeatedly led up to said wavelength-selective filter at said different angles; and light being routed in said optical waveguide and being repeatedly reflected at said at least one layer (according to the combination of references and following the paths indicated in Figure 8 of Hendrix).

Regarding claim 18, the combination of Hendrix and Suzuki teaches that said substrate has a surface (inherent); and said at least one layer that runs at an angle with respect to said wavelength-selective filter is formed on said surface of said substrate (reference numeral 260 in Figure 8 of Hendrix).

Regarding claim 19, the combination of Hendrix and Suzuki teaches that said substrate has an edge (reference numeral 226 in Figure 8 of Hendrix; Figure 3 of Suzuki); and light including said plurality of said wavelengths being coupled into said optical waveguide directly from said edge of said substrate (as seen in both Hendrix and Suzuki).

Regarding claim 20, the combination of Hendrix and Suzuki differs from the claimed invention in that it fails to specifically teach a plurality of optoelectronic converters that are directly coupled to said substrate without additional optics; each one of said plurality of said optoelectronic converters detecting coupled-out light of a respective separated one of said plurality of said wavelengths. However, optoelectronic converters are very well known in the art and readily available. As such, Official Notice is taken of optoelectronic converters. One skilled in the art would have been motivated to employ optoelectronic converters in the device of the combination of references in order to convert the filtered optical signals into electrical signals for use in an electrical system. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to employ a plurality of optoelectronic converters that are directly

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coupled to said substrate without additional optics; each one of said plurality of said optoelectronic converters detecting coupled-out light of a respective separated one of said plurality of said wavelengths.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AB

A. Bello
AGUSTIN BELLO
PATENT EXAMINER
05/05/05